

Parking Study

Old Eau Gallie Waterfront

Melbourne, Florida

FINAL REPORT

April 3, 2008



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Prepared for:

Waterfronts Florida Program
Division of Community Planning
Florida Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
(850) 921-4801

Prepared by:

Kittelson & Associates, Inc.
225 E. Robinson Street, Suite 450
Orlando, FL 32801
(407) 540-0555

in association with

IBI Group
1519 Main Street
Sarasota, FL 34236
(941) 954-1718

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Introduction

This parking study for the Old Eau Gallie Waterfront is intended to assist the Florida Department of Community Affairs (DCA) with implementation of the Waterfronts Florida Program and comprehensive planning requirements related to preservation of recreational and commercial working waterfronts within the State of Florida. This study is also intended to assist Waterfronts Florida communities with implementation of their Waterfronts Florida vision plans. The Waterfronts Florida Program is administered by DCA and is partially funded by a grant from the Florida Coastal Management Program (FCMP) of the Department of Environmental Protection (DEP) and the National Oceanic and Atmospheric Administration (NOAA).

The study, conducted by Kittelson & Associates, Inc., assesses the need for and configuration of added public parking in the Old Eau Gallie community in Melbourne, Florida. The study area consists of nine blocks bounded by Creel Street, Pineapple Street, Avocado Avenue, and Montreal Avenue. Figure 1 shows the study area, the block numbering system used in this report, and the parking lots and landmarks mentioned in this report. Major special event parking is not within the scope of this study.

This report summarizes the results of the study. It addresses existing and future supply and demand, identifies specific parking improvement projects, and recommends staging and funding strategies for the parking improvement projects. The report also includes recommended changes to the City of Melbourne comprehensive plan and land development code.



Eau Gallie Parking Study
Study Area Aerial Photograph

FIGURE
1

Existing Parking Conditions

METHODOLOGY

An inventory of the available on-street and surface lot parking supply was taken on January 29, 2008. From discussions with local business owners, a member of the Community Redevelopment Area (CRA) Advisory Committee, and a former member of City staff, the study team was advised that the peak parking demand occurs between approximately 4:00 p.m. and 7:00 p.m. on weekdays, with Fridays experiencing the heaviest demand of the week. Demand data were then collected on Friday, February 8, 2008, from 4:00 p.m. to 7:00 p.m. Data were recorded every half hour in the commercial core and every 45 minutes in the residential areas. Turnover data were collected for on-street parking and the city-leased lot on the west side of Highland Avenue just north of Montreal Avenue. Occupancy data were collected for the remaining surface lots, residences, and alleys. Parking for major special events was not studied.

EXISTING PARKING SUPPLY

Supply Inventory

The parking supply inventory was conducted on January 29, 2008. Data on number of parking spaces, usage and time restrictions, and parking signage were collected for 28 block faces, 20 residential properties' driveways, 57 surface parking lots, and 8 alleys. Photos of on-street parking, off-street parking, and alley parking are shown in Figure 2 through Figure 11.



Figure 2 Off-Street Private Parking (Block 1, Guava Avenue)



Figure 3 On-Street Public Parking (Block 1, Avocado Avenue)



Figure 4 Alley Parking (Block 1)



Figure 5 Off-Street Public Parking on St. Paul's Property (Block 2)



Figure 6 On-Street Public Parking (Block 1, Creel Avenue)



Figure 7 On-Street Public Parking (Block 3, Highland Avenue)



Figure 8 Off-Street Public Parking (Block 4, Bud Yeager Boulevard)



Figure 9 Off-Street Public Parking (Block 4, Museum and Civic Center)



Figure 10 On-Street Public Parking (Block 9, Highland Avenue)



Figure 11 Off-Street Public Parking (Block 8 Highland Avenue)

The parking supply consists of on-street parking, public and private surface lots (including alleys), and residential driveways and garages. The on-street parking supply for the study area is shown in Table 1. Time limits on on-street parking are shown in Figure 12. The surface lot parking supply is shown in Table 2.

Table 1 On-Street Parking Supply (1/29/08)

Street	From	To	Number of Parking Spaces			
			Total	Handicapped	15-Minute	2-Hour
Avocado Ave	Creel St	St Clair St	33	0	0	4
	St Clair St	Eau Gallie Blvd	18	0	4	0
	Eau Gallie Blvd	Montreal Ave	6	0	0	0
Guava Ave	Creel St	St Clair St	15	0	0	0
	St Clair St	Eau Gallie Blvd	18	1	0	0
	Eau Gallie Blvd	Montreal Ave	19	0	0	0
Highland Ave	Creel St	St Clair St	33	2	0	20
	St Clair St	Eau Gallie Blvd	44	2	0	21
	Eau Gallie Blvd	Montreal Ave	36	1	1	34
Pineapple Ave	Creel St	Bud Yeager Blvd	0	0	0	0
	Bud Yeager Blvd	Eau Gallie Blvd	0	0	0	0
	Eau Gallie Blvd	Montreal Ave	0	0	0	0
Creel Street	Avocado Ave	Guava Ave	20	0	0	0
	Guava Ave	Highland Ave	14	0	0	0
	Highland Ave	Pineapple Ave	10	0	0	0
St Clair St	Avocado Ave	Guava Ave	13	0	13	0
	Guava Ave	Highland Ave	14	0	0	14
Bud Yeager Blvd	Highland Ave	Pineapple Ave	7	0	0	0
Eau Gallie Blvd	Avocado Ave	Guava Ave	2	0	0	0
	Guava Ave	Highland Ave	4	0	0	0
	Highland Ave	Pineapple Ave	2	0	0	0
Montreal Ave	Avocado Ave	Guava Ave	0	0	0	0
	Guava Ave	Highland Ave	0	0	0	0
	Highland Ave	Pineapple Ave	0	0	0	0
Total			308	6	18	93

NOTE: Supply values reflect parking available on both sides of the street



On-Street Parking Time Limits

FIGURE
12

Table 2 Surface Lot, Residential, and Alley Parking Supply (1/29/08)

Block	Number of Spaces				
	Total	Private Non-Residential ¹	Residential	Public	Alley
1	48	11	28	0	9
2	314	49	10	255	0
3	173	92	19	62 ²	0
4	11	4	0	7	0
5	90	70	20	0	0
6	114	74	40	0	0
7	35	32	3	0	0
8	92	64	0	28	0
9	54	18	0	26 ³	10
Total	931	414	120	378	19

¹ Includes church, museum, school, and post office lots

² Includes the Civic Center lot

³ Includes a 20-space lot on the north side of the alley that was leased in late February 2008

NOTE: The library parking lot is adjacent to the study area.

Unstriped parallel parking spaces are those that do not differentiate individual parking spaces. The on-street supply shown in Table 1 assumes that parkers in unstriped parallel on-street spaces do not park as efficiently as parkers in striped parallel on-street spaces. That is, the supply of unstriped parallel parking spaces has been determined based on a 23-foot average length of parking space reported in industry research.¹ Striped parallel spaces in other cities are typically 18 to 22 feet long. (City regulations currently require 25 feet of length for individually striped stalls.) This inefficiency in use of unstriped parallel parking is illustrated in Figure 13, which is a photo of a parked vehicle on Highland Avenue.

¹ *Manual of Traffic Engineering Studies*, Institute of Transportation Engineers, Washington, D.C., 1976



Figure 13 Inefficient Use of On-Street Parallel Parking

The off-street parking supply shown in Table 2 reflects the following assumptions:

- As with the on-street parallel parking supply, the number of spaces in unstriped lots was estimated. On Block 2, for example, the two large lots leased by the City from St. Paul's United Methodist Church are not striped. KAI estimated that, if the lot were cleared, it could hold up to approximately 255 parking spaces. This estimate assumes a parking stall width of 9.5 feet, which is wider than the 8.5 feet that might be striped for a lot serving office, residential, and institutional uses based on industry practice.² (City regulations currently require 11 feet of width for individually striped stalls with some exceptions for employee and residential parking.) The wider stall width accounts for inefficiencies in parkers' use of the lot.
- On some residential lots, there is evidence that cars park in unpaved areas. (Figure 14 shows one car parked on a lawn. A second car was later observed parked in the area on the right side of the figure where there is little grass. Figure 15 is another example of lawn parking.) This does not appear to be allowed in the land development code due to setbacks and paving requirements, so it was not assumed to be part of the estimated parking supply. Parking on-street along the edge of residential lawns was considered to be public parking.
- Off-street parking in alleys was assumed to be private parking. In general, the alleys function like private parking lots.
- The off-street supply includes private residential garages.
- In general, only spaces that are safe, reasonable, and legal for parking were considered to be part of the parking supply.

² *Traffic Engineering Handbook*, 5th Edition, Institute of Transportation Engineers, Washington, D.C., 1999



Figure 14 Parking in Lawn



Figure 15 Parking in Lawn

Parking Restrictions

The three types of restrictions on parking in the study area are:

1. Private lots and spaces reserved for residents, customers, and employees
2. On-street parking time limits as shown in Figure 12 and consisting of:
 - a. A 15-minute limit on spaces between Blocks 1 and 5 by the post office
 - b. One 15-minute space in front of a bakery on Block 9
 - c. Two-hour limits on St. Clair Street (between Blocks 1 and 5), Highland Avenue (along much of Blocks 2, 6, 8, and 9), and Avocado Avenue (across from Block 1)
3. Handicapped parking spaces (on- and off-street)

Parking Signage and Pavement Markings

The study area includes parking signage that indicates time restrictions, prohibits parking, designates spaces for handicapped drivers, designates parking for customers/visitors, and directs drivers to parking. Examples are shown in Figure 16.



Figure 16 Parking Signs in the Study Area

Pavement markings related to parking include yellow- and red-painted curbs that prohibit parking and striped on- and off-street spaces. Not all on- and off-street parking spaces are striped. No spaces in alleys are striped.

Figure 17 shows a parking sign and a painted curb that indicate where on-street parking is prohibited. Figure 18 and Figure 19 show examples of parking stall striping.



Figure 17 Painted Curb and Parking Sign Near Post Office



Figure 18 On-Street Parking Stall Pavement Markings in the Study Area

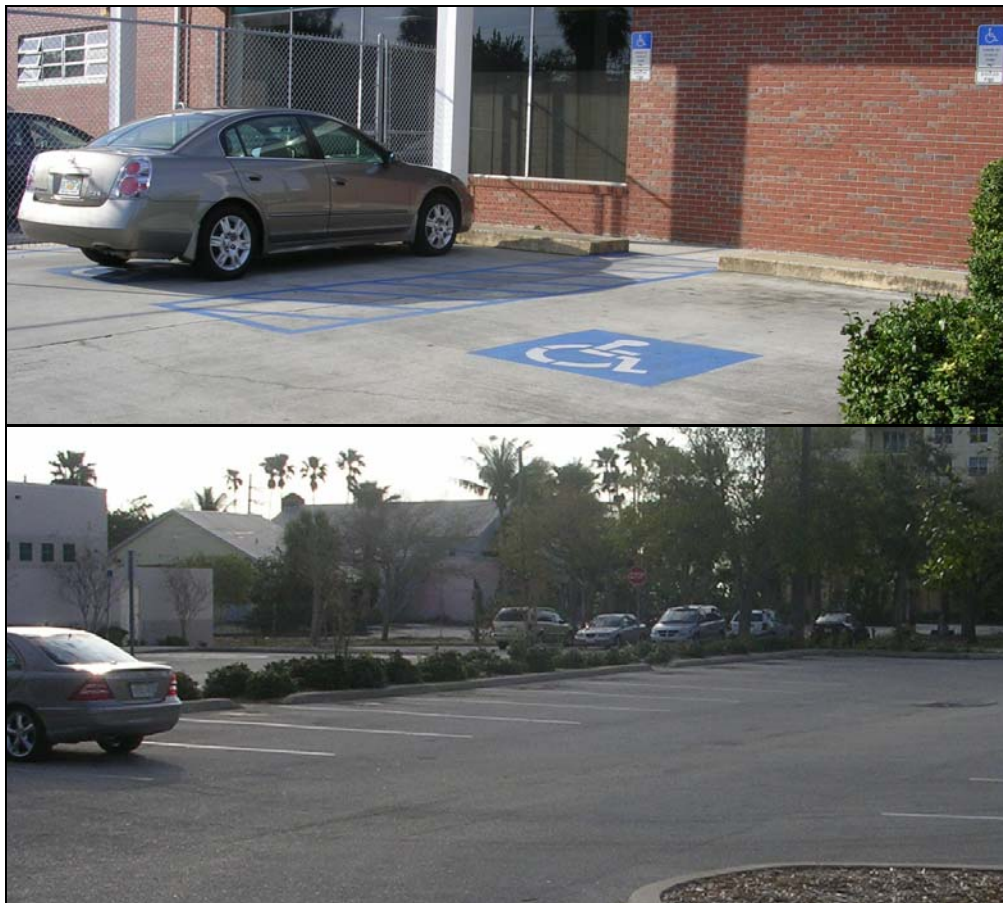


Figure 19 Off-Street Parking Stall Pavement Markings in the Study Area

Summary of Existing Parking Supply

In summary, there are approximately 1,239 parking spaces located within the study area. Of the supply, 308 (25%) are on-street spaces and 931 (75%) are located in the interior of the blocks (in lots and alley-accessed spaces). Six (2%) of the on-street spaces are marked as handicapped, and 111 on-street spaces (36%) have some type of time-based restriction. Fifty-five percent of the supply is public parking.

EXISTING PARKING DEMAND

As stated previously, the peak parking period was identified before the February 8 demand data collection as weekdays from 4:00 p.m. to 7:00 p.m. The tables in this section of the report reflect this peak period. However, some participants at the February 28 workshop involving the CRA Advisory Committee, other local business owners, and City staff questioned whether or not this was the true peak. Subsequent discussion suggested that the peak may vary by block face depending on the characteristics of the surrounding land uses (e.g., business hours). Observation of mid-morning on-street parking conditions on Highland Avenue after the workshop supported the position that the peak period on Highland Avenue may occur mid-day (approximately 10 a.m. to 2 p.m.), particularly for the segment between Eau Gallie Boulevard and Montreal Boulevard, where an on-street parking utilization of approximately 86% was observed on February 28.

Site observations made on multiple trips to the study area at different times of day indicate that parking is available within a block or two of sites where on-street parking may be full directly in front of a given destination. Therefore, the study team believes that future parking conditions will drive the need for major parking improvements in the study area. The future parking conditions analysis in this report assumes that currently vacant properties in the study area (such as the two restaurant sites on Highland Avenue) are developed and fully occupied. By giving consideration to the likely operating hours associated with the future uses, the need to ensure that each use is able to provide the parking supply required by the land development code, and the opportunity for complementary land uses to share their parking supply, the study team is confident that CRA Advisory Committee members' concerns about the peak demand data collection period will be alleviated by the near- and long-term recommendations in this report.

Analysis of major special event parking supply and demand is not within the scope of this study.

Occupancy

Table 3, Table 4, Figure 20, and Figure 21 summarize on-street parking occupancy between 4:00 p.m. and 7:00 p.m. Occupancy is the number of cars parked at a given location at a given time. The utilization reported in the last column of the tables is the percent of parking spaces that were full during the peak period. A utilization of 85% is effectively full; that is, it reflects the perspective of drivers who are looking for a parking space near their destination and it accounts for a small amount of day-to-day fluctuation in parking demand.

The only on-street parking location with peak utilization greater than 85% is Eau Gallie Boulevard between Highland Avenue and Pineapple Avenue; a peak utilization of 100% was recorded during data collection. No near-term expansion of on-street parking supply is recommended at this location, however, because the City leased 20 off-street spaces less than half a block to the south and east in February 2008. Also, there are only two on-street spaces on this section of roadway--less than 1% of the total on-street parking supply in the study area. Parking demand can easily fluctuate by this amount from day-to-day, so parking demand at this particular location does not significantly affect the availability of parking overall. Therefore, no additional on-street parking is needed under existing conditions.

With respect to off-street parking, no block has a peak utilization that approaches or exceeds 85%. Therefore, no additional off-street parking is needed under existing conditions.

Table 3 On-Street Parking Demand - Occupancy (2/8/08)

Street	From	To	Supply	Demand			Peak Utilization
				Average	Peak	Peak Occupancy	
Avocado Ave	Creel St	St Clair St	33	6.8	11	4-4:45 p.m.	33%
	St Clair Street	Eau Gallie Blvd	18	1.5	3	4-4:45 p.m.	17%
	Eau Gallie Blvd	Montreal Ave	6	1.0	1	N/A	17%
Guava Ave	Creel St	St Clair St	15	0.0	0	N/A	0%
	St Clair St	Eau Gallie Blvd	18	1.3	2	6-7:00 p.m.	11%
	Eau Gallie Blvd	Montreal Ave	19	4.0	6	4-5:15 p.m.	32%
Highland Ave	Creel St	St Clair St	33	13.9	18	6:30-7 p.m.	55%
	St Clair St	Eau Gallie Blvd	44	6.9	13	4-4:45 p.m.	30%
	Eau Gallie Blvd	Montreal Ave	36	16.8	20	4-5:30 p.m.	56%
Pineapple Ave	Creel St	Bud Yeager Blvd	0	N/A	N/A	N/A	N/A
	Bud Yeager Blvd	Eau Gallie Blvd	0	N/A	N/A	N/A	N/A
	Eau Gallie Blvd	Montreal Ave	0	N/A	N/A	N/A	N/A
Creel St	Avocado Ave	Guava Ave	20	0	0	N/A	N/A
	Guava Ave	Highland Ave	14	0	0	N/A	N/A
	Highland Ave	Pineapple Ave	10	4.0	4	N/A*	40%
St Clair St	Avocado Ave	Guava Ave	13	3.8	9	4-4:30 p.m.	69%
	Guava Ave	Highland Ave	14	2.3	4	4-4:45 p.m.	29%
Bud Yeager Blvd	Highland Ave	Pineapple Ave	7	0	0	N/A	N/A
Eau Gallie Blvd	Avocado Ave	Guava Ave	2	0.0	0	N/A	0%
	Guava Ave	Highland Ave	4	1.8	3	4-4:30 p.m.	75%
	Highland Ave	Pineapple Ave	2	1.0	2	4-5:00 p.m.	100%
Montreal Ave	Avocado Ave	Guava Ave	0	N/A	N/A	N/A	N/A
	Guava Ave	Highland Ave	0	N/A	N/A	N/A	N/A
	Highland Ave	Pineapple Ave	0	N/A	N/A	N/A	N/A
Total			308	65.0	96	N/A	31%

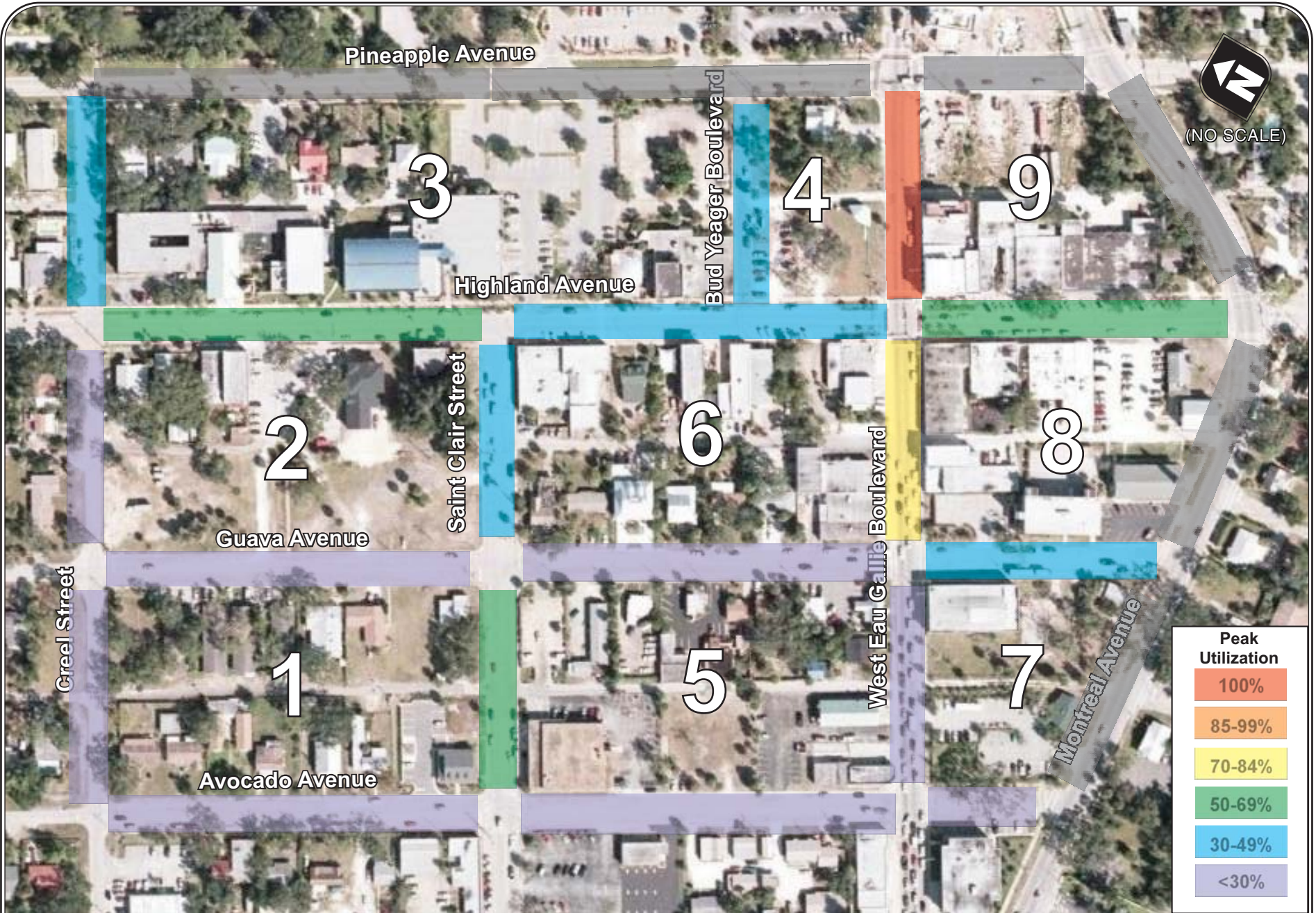
*The same four cars were parked here for the entire study period.

NOTE: Supply and demand is for both sides of the street.

Table 4 Surface Lot, Residential, and Alley Parking Demand - Occupancy (2/8/08)

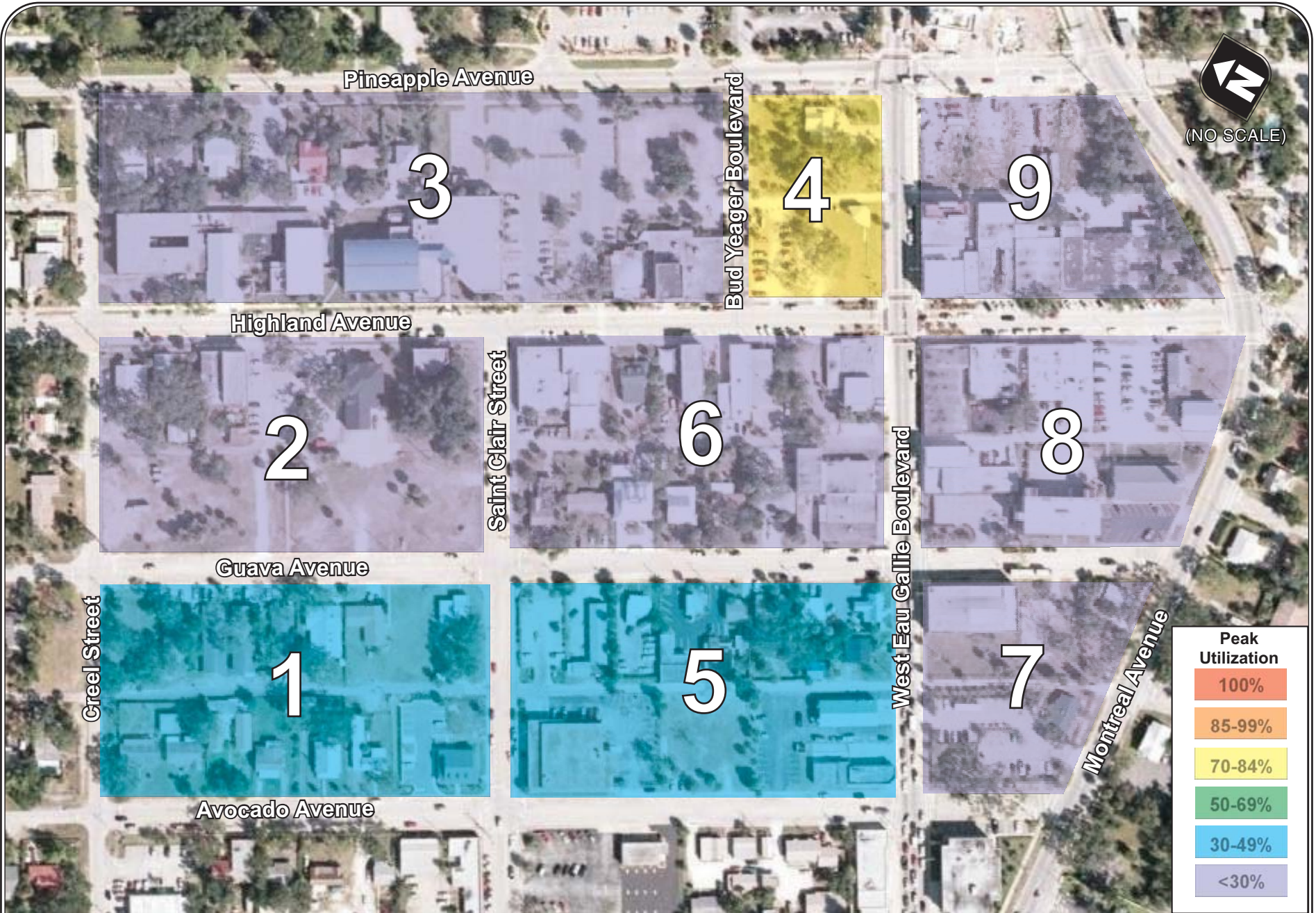
Block	Total Supply	Demand			Peak Utilization
		Average	Peak	Peak Occupancy	
1	48	17.8	19	5-5:30 p.m.	40%
2	314	8.8	12	4-4:45 p.m.	4%
3	173	23.0	27	4:30-5 p.m.	16%
4	11	4.3	6	4-4:30 p.m. & 5:30-6 p.m.	55%
5	90	19.3	30	4-4:45 p.m.	33%
6	114	20.5	29	4-4:45 p.m.	25%
7	35	6.0	8	5:30-6 p.m.	23%
8	92	17.9	27	4-4:30 p.m.	29%
9	34	11.3	13	6:30-7 p.m.	38%
Total	911*	126.2	164	4:30 p.m.	18%

*The 20-space lot on Block 9 was not leased on the date the occupancy study was conducted.



Peak On-Street Parking Utilization - 2/8/08

FIGURE
20



Peak Off-Street Parking Utilization - 2/8/08

FIGURE
21

Turnover

Table 5 summarizes parking turnover between 4:00 p.m. and 7:00 p.m. for all on-street parking and the Highland Avenue city lease lot located just north of Montreal Avenue. Figure 22 shows parking supply and duration on a map of the study area. Turnover is the average number of cars parked in a given space during the study period. Duration is the length of time that a given vehicle or the average vehicle is parked. Violations consist of parking durations that exceed a posted time limit and parking in areas where parking is prohibited; the former is reported in Table 5.

Parking is limited to 15 minutes on Avocado Avenue and St. Clair Street near the post office (17 unstriped spaces estimated) and one space in front of a bakery on the west side of Block 9. Table 5 shows only one violation of this restriction: a vehicle that parked for more than an hour on Avocado Avenue next to the post office. Table 3 shows that peak utilization of on-street parking on St. Clair Street and Avocado Avenue next to the post office is 69% and 17%, respectively. This means that on-street parking supply near the post office is well-used but is more than is needed under existing conditions. In addition, there is an off-street post office parking lot east of the post office that is available to post office customers, not highly utilized, and not time-restricted. Because the 15-minute restriction is respected by most drivers, parking is available on St. Clair Street and Avocado Avenue, and the post office lot is available for both short- and long-term visitors' needs, no changes to the number of 15-minute spaces are recommended for existing conditions.

Parking is limited to two hours on portions of Highland Avenue. Violations of the time restriction were observed along Block 6 (two violations, or 9% of parkers) and Block 8 (three violations, or 2% of parkers). While Table 3 shows that peak utilization in these areas is not high enough to warrant additional supply, the violations included one duration of 2.25 hours and four durations of at least 3 hours. Enforcement of the time limit coupled with extension of the time limit from 5 p.m. to 6 p.m. would make additional spaces available under existing conditions.

Anecdotal evidence offered at the February 28, 2008, CRA Advisory Committee meeting and documented in Appendix A indicated that approximately 50% of the public parking spaces on Highland Avenue between Eau Gallie Boulevard and Montreal Avenue and in the city-leased lot on the west side of Highland Avenue are occupied by employees. Enforcement of the two-hour time limit will reduce this occurrence and make more parking available for customers and visitors.

Table 5 Parking Demand - Turnover (2/8/08)

Block	Street ¹	From	To	Supply ²	Total Parked Vehicles	Average Duration (hr/veh)	Average Duration (min/veh)	Turnover Rate (veh/stall/hr) ³	Time Restriction Violations Observed
1	Creel St	Avocado Ave	Guava Ave	10	0	0.00	0.0	0.00	N/A
	Guava Ave	Creel St	St Clair St	3	0	0.00	0.0	0.00	N/A
	St Clair St 15-minute	Avocado Ave	Guava Ave	8	22	0.25	15.0	0.92	0
	Avocado Ave	Creel St	St Clair St	16	4	3.00	180.0	0.08	N/A
2	Creel St	Guava Ave	Highland Ave	5	0	0.00	0.0	0.00	N/A
	Highland Ave unrestricted	Creel St	St Clair St	12	0	0.00	0.0	0.00	N/A
	Highland Ave 2-hour	Creel St	St Clair St	3	6	1.13	68.0	0.67	0
	St Clair St	Guava Ave	Highland Ave	6	1	3.00	180.0	0.06	N/A
	Guava Ave	Creel St	St Clair St	12	0	N/A	N/A	0.00	N/A
3	Creel St	Highland Ave	Pineapple Ave	0	0	N/A	N/A	N/A	N/A
	Pineapple Ave	Creel St	Bud Yeager Blvd	0	0	N/A	N/A	N/A	N/A
	Bud Yeager Blvd	Highland Ave	Pineapple Ave	7	0	0.00	0.0	0.00	N/A
	Highland Ave 2-hour	Creel St	Bud Yeager Blvd	29	23	0.93	56.0	0.26	0
	Highland Ave handicapped	Creel St	Bud Yeager Blvd	2	0	0.0	0.0	0.00	0
4	Bud Yeager Blvd	Highland Ave	Pineapple Ave	7	5	1.60	96.0	0.24	N/A
	Pineapple Ave	Bud Yeager Blvd	Eau Gallie Blvd	0	0	N/A	N/A	N/A	N/A
	Eau Gallie Blvd	Highland Ave	Pineapple Ave	0	0	N/A	N/A	N/A	N/A
	Highland Ave	Bud Yeager Blvd	Eau Gallie Blvd	3	2	1.00	60.0	0.22	N/A
5	St Clair St 15-minute	Avocado Ave	Guava Ave	5	13	0.25	15.0	0.87	0
	Guava Ave	St Clair St	Eau Gallie Blvd	8	1	0.75	45.0	0.04	N/A
	Eau Gallie Blvd	Avocado Ave	Guava Ave	0	0	N/A	N/A	N/A	N/A
	Avocado Ave unrestricted	St Clair Street	Eau Gallie Blvd	4	0	0.00	0.0	0.00	N/A
	Avocado Ave 15-minute	St Clair Street	Eau Gallie Blvd	4	2	1.13	67.5	0.17	1

Block	Street ¹	From	To	Supply ²	Total Parked Vehicles	Average Duration (hr/veh)	Average Duration (min/veh)	Turnover Rate (veh/stall/hr) ³	Time Restriction Violations Observed
6	St Clair St	Guava Ave	Highland Ave	7	4	0.94	56.3	0.19	N/A
	Highland Ave unrestricted	St Clair St	Eau Gallie Blvd	7	3	1.75	105.0	0.14	N/A
	Highland Ave 2-hour	St Clair St	Eau Gallie Blvd	21	9	1.17	70.0	0.14	2
	Eau Gallie Blvd	Guava Ave	Highland Ave	8	3	1.25	75.0	0.13	N/A
	Guava Ave	St Clair St	Eau Gallie Blvd	1	0	0.00	0.0	0.00	N/A
7	Eau Gallie Blvd	Avocado Ave	Guava Ave	2	0	0.00	0.0	0.00	N/A
	Guava Ave	Eau Gallie Blvd	Montreal Ave	9	3	2.50	150.0	0.11	N/A
	Montreal Ave	Avocado Ave	Guava Ave	0	0	N/A	N/A	N/A	N/A
	Avocado Ave	Eau Gallie Blvd	Montreal Ave	6	1	3.00	180.0	0.06	N/A
8	Eau Gallie Blvd	Guava Ave	Highland Ave	5	4	0.94	56.3	0.27	N/A
	Highland Ave 2-hour	Eau Gallie Blvd	Montreal Ave	12	17	1.32	79.4	0.47	3
	Highland Ave handicapped	Eau Gallie Blvd	Montreal Ave	1	0	0.00	0.0	0.00	0
	Montreal Ave	Guava Ave	Highland Ave	0	0	N/A	N/A	N/A	N/A
	Guava Ave	Eau Gallie Blvd	Montreal Ave	8	4	1.13	67.5	0.17	N/A
	City-leased lot (not including 4 reserved realtor spaces)				28	21	1.29	77.1	0.25
9	Eau Gallie Blvd	Highland Ave	Pineapple Ave	2	4	0.75	45.0	0.67	N/A
	Pineapple Ave	Eau Gallie Blvd	Montreal Ave	0	0	N/A	N/A	N/A	N/A
	Montreal Ave	Highland Ave	Pineapple Ave	0	0	N/A	N/A	N/A	N/A
	Highland Ave 2-hour ⁴	Eau Gallie Blvd	Montreal Ave	22	51	0.96	57.6	0.77	0
	Highland Ave 15-minute ⁴	Eau Gallie Blvd	Montreal Ave	1	2	0.75	45.0	0.67	0

NOTE: Turnover was measured only on-street and in the south Highland Avenue lease lot.

¹ Time restrictions are noted in this column.

² On-street supply does not include vehicles parked on the opposite side of the street.

³ Turnover Rate = Number of Different Vehicles ÷ Number of Stalls ÷ Number of Hours in Data Collection Period

⁴ Time restriction applies only until 5 p.m.



Parking Demand Turnover

FIGURE
22

Regarding the turnover rate reported in Table 5, the block faces with the highest turnover rate are:

- Block 1, St. Clair Street between Avocado Avenue and Guava Avenue, 15-minute parking spaces (0.92 vehicles/stall/hour)
- Block 5, St. Clair Street between Avocado Avenue and Guava Avenue, 15-minute parking spaces (0.87 vehicles/stall/hour)
- Block 9, Highland Avenue between Eau Gallie Boulevard and Montreal Avenue, two-hour parking spaces (0.77 vehicles/stall/hour)
- Block 2, Highland Avenue between Creel Street and St. Clair Street, two-hour parking spaces (0.67 vehicles/stall/hour)
- Block 7, Eau Gallie Boulevard between Avocado Avenue and Guava Avenue, unrestricted parking (0.67 vehicles/stall/hour)
- Block 9, Eau Gallie Boulevard between Highland Avenue and Pineapple Avenue, unrestricted parking (0.67 vehicles/stall/hour)
- Block 9, Highland Avenue between Eau Gallie Boulevard and Montreal Avenue, single 15-minute parking space (0.67 vehicles/stall/hour)

The preponderance of time-restricted parking in the list above indicates that there is demand for short-term spaces but drivers are generally obeying the time restrictions and turning over the space to other users.

Enforcement

No enforcement of parking time limits was witnessed during parking supply or demand data collection activities. Business owners encountered during the January 29 data collection mentioned that parking time limits are not enforced.

Summary of Existing Parking Demand

Existing parking demand is accommodated by existing parking supply. Peak utilization does not exceed 85% except in one location that has only two on-street spaces. Short-term parking is well used. Drivers generally obey parking time restrictions, but some significant violations were observed during demand data collection.

COORDINATION WITH STAKEHOLDERS

Minutes from the February 21 meeting with City of Melbourne staff, the February 28 workshop with Community Redevelopment Area (CRA) Advisory Committee members, and the April 3 presentation to the CRA Advisory Committee can be found in Appendix A. Lists of participants are included with the minutes.

Future Parking Conditions

The future conditions analysis assumes that existing buildings are fully occupied and it accounts for currently planned development. The analysis considers opportunities for shared parking (i.e., the circumstance in which multiple uses with different parking peak periods can use the same parking supply). It also considers seasonal peaks in parking.

The first analysis described in this section looks at the study area as a whole. The second analysis considers a sub-area within the Eau Gallie Waterfront study area and walking distances between parking areas and destinations.

FUTURE PARKING DEMAND - ENTIRE STUDY AREA

Calculation of Future Parking Demand

Calculation of the future parking demand for the entire study area is described in the following four steps.

Step 1. Define Future Land Use Scenario

The first step in forecasting future parking needs began with identifying the land uses that currently are allowed on all of the parcels in the study area. City staff provided a map that identified parcels by a use code and use code description (e.g., single-family residence, retail store, and single-tenant office building). This map can be found in Appendix C. Combining this parcel use data with the number of units on residential parcels and the square footage of existing nonresidential buildings produced a picture of future development in the study area in which the use of existing structures is maximized (i.e., existing buildings are fully occupied). Table 6 describes this maximum use scenario.

Table 6 Land Uses in Maximum Use Scenario

Block	Maximum Use Scenario		
	Residential Units	Nonresidential Area	Other
1	34	2,400 square feet	--
2	1	13,340 square feet	--
3	6	64,382 square feet	--
4	0	1,153 square feet	0.56 acre park
5	17	18,512 square feet	--
6	2	49,835 square feet	--
7	0	21,120 square feet	--
8	0	50,979 square feet	--
9	1	37,117 square feet	--

Step 2. Calculate Unshared Parking Demand

For each of the parcels in the maximum use scenario in Step 1, parking supply requirements were calculated based on the land development code. This code-required parking supply was assumed to be equivalent to the parking demand under the maximum use scenario. The maximum use parking demand for the study area was therefore calculated as 1,251 spaces. This number assumes that no land use shares its parking supply with any other land use.

Step 3. Calculate Shared Parking Demand

The 1,251-space future parking demand estimate calculated in Step 1 was reduced to account for opportunities for land uses to share parking. Shared parking opportunities occur when the peak parking periods for various land uses do not occur simultaneously. The procedure for calculating shared parking relies on data from the Urban Land Institute (ULI)³ that show how parking demand for a given land use varies by hour between 6:00 a.m. and 12:00 a.m. The land uses covered by the ULI data include Residential, Shopping Center, Office, Family Restaurant, Fine/Casual Dining, Health Club, and Bank.

The 1,251-space future parking demand estimate calculated above was also reduced to account for monthly peaking of parking demand. ULI's data indicate that December is typically the peak parking month for all but one of the land uses found in the Eau Gallie Waterfront study area. The use that does not peak in December is Health Club, which is at 90% of its peak. The code-required parking supply for the athletic club parcels was therefore reduced by 10%.

Considering shared parking and monthly peaking together, the 1,251-space future demand estimate was reduced to 936 spaces.

Step 4. Consider Future Parking Utilization

The future shared parking demand across the entire study area is 936 spaces. As discussed earlier in this report, drivers who are looking for a parking space near their destination tend to perceive a lack of adequate parking when the supply is 85% full, not when it is 100% full. *Thus, 1,102 parking spaces are needed to accommodate the demand for 936 spaces such that the drivers will perceive the supply as adequate and will not be dissuaded from visiting the Eau Gallie Waterfront area due to concerns about parking availability.*

Future Parking Demand vs. Existing Supply

The existing supply of parking spaces in the Eau Gallie Waterfront study area is 931 off-street spaces and 308 on-street spaces--a total of 1,239 spaces. Twenty of the off-street spaces are in the newly leased lot on Block 9 and are not likely to be available when the planned condominium project for the site moves forward; these spaces are not assumed to exist in the long term. If the south Highland Avenue lease lot (28 public spaces) and the unimproved St. Paul's lease lot (255 public spaces) remain available in the long term, the long term supply is 1,219 spaces (a surplus of 117 spaces). Without the south Highland Avenue lot and the St. Paul's lot, the long term supply is

³ *Shared Parking*, 2nd Edition, Urban Land Institute, Washington, D.C., 2005

936 spaces (a deficit of 166 spaces). From an area-wide perspective, it can be concluded that adequate supply exists to meet long-term demand, but this is true only if (1) the St. Paul's lease lot continues to be available and (2) drivers will accept walking several blocks between parking and their destination.

This analysis does not include parking for major special events.

FUTURE PARKING DEMAND - SUB-AREA ANALYSIS

Study team observations and input from local business owners indicated that the sub-area of principal interest is the one centered around Highland Avenue between Eau Gallie Boulevard and Montreal Avenue. This section focuses on parking demand generated in that sub-area.

Maximum Walking Distance

The ULI data cited previously recommend level of service (LOS) standards for maximum walking distances between parking and destinations. The LOS standards relevant to the Eau Gallie Waterfront study reflect uncovered outdoor walking routes and are as follows:

- 1,600 feet maximum walking distance = LOS D (“below average but minimally acceptable”)
- 1,200 feet maximum walking distance = LOS C (“average”)
- 800 feet maximum walking distance = LOS B (“good”)
- 400 feet maximum walking distance = LOS A (“ideal”)

The LOS standards suggested for the purposes of analyzing long-term parking demand and supply in sub-areas of the overall Eau Gallie Waterfront study area are LOS C for employees; LOS B for customers of restaurant, health, and entertainment properties; and LOS A for customers and visitors of retail and office properties. The different LOS standards for these three groups of users consider that retail and office customers typically park for the shortest duration of the three groups (and are thus the most sensitive to long walking distances), while employees typically park for the longest duration. Also, retail customers are more likely to be carrying sizable purchased items.

These standards do not apply to special events in the Eau Gallie Waterfront. Attendees of special events typically expect to park some distance from their destination.

Sub-Area: Commercial Core

The sub-area analyzed is the businesses fronting Highland Avenue on Blocks 8 and 9. The future parking demand for these two block faces is summarized in Table 7. The number of spaces in the table reflects shared parking, monthly peaking, and 85% target utilization.

Table 7 Future Parking Demand in Commercial Core Sub-Area

Land Use	Parking Demand		
	Customer/Visitor	Employee	Total
Retail/Office	95	35	130
Other	113	12	125
Total	208	47	255

Parking for All Employees

Considering an LOS C standard for employee parking, all faces of Blocks 4, 6, 7, 8, and 9 are within 1,200 feet walking distance of the center of this sub-area. About half of Blocks 2, 3, and 5 are within 1,200 feet. Together, these areas offer 777 parking spaces (182 on-street and 595 off-street), which exceeds the 255-space sub-area demand. The typical walking speed of a pedestrian is 3 to 4 feet per second. Considering an average walking speed of 3.5 feet per second and assuming 30 seconds of delay at street crossings, it would take the average pedestrian approximately six minutes to walk from the south end of the St. Paul’s lease lot on Block 2 to a business on the south blocks of Highland Avenue. This suggests that sub-area employees can reasonably park in remote, underutilized areas if alley-accessed parking or dedicated private lots are not available.

Parking for Retail/Office Customers and Visitors

Considering an LOS A standard for retail/office customers and visitors, the following parking areas are within 400 feet of the center of the sub-area:

- On-street parking on Highland Avenue between Blocks 8 and 9 (36 spaces)
- South Highland Avenue lease lot (28 public spaces and 4 private spaces)
- 20 spaces leased by the City on Block 9 (near-term only)
- On-street parking on Highland Avenue along most of Block 4 (5 spaces)
- On-street parking on Eau Gallie Boulevard along the east half of Block 8 and the west half of Block 9 (6 spaces)
- Private lots behind the businesses on Block 8 (14 spaces)
- Private lots for the businesses on Block 9, including the alley (28 spaces)

These areas provide a total of 141 parking spaces. Of these, 95 are public parking spaces suitable for customers and visitors. Given that customers are more sensitive to walking distances than employees, it is critical that the 95 close-in public spaces be reserved for customers and signed for short-term use. Employee demand can be met using spaces available in the private lots on Blocks 8 and 9 and remote parking (i.e., the St. Paul’s lease lot).

A supply of 95 public spaces is needed for retail/office customers and visitors, and exactly 95 are currently provided for the near term. Additional public parking can be provided in the near term by striping the south Highland Avenue lease lot with parking spaces 8.5 feet in width. This will gain

four parking spaces. Striping individual stalls on the west side of Highland Avenue will pick up one more space, for a total of 100 public parking spaces and a surplus of five spaces. Land development code changes are necessary to preserve this supply for customers and visitors, as is paving the south Highland Avenue lease lot and designating it for two-hour parking; these improvements are discussed further in the Parking Improvements section of this report. Also required is signage or other information that directs customers and visitors to the 20 spaces leased on Block 9.

In the long term, the 20-space lot on Block 9 is not likely to be available. The City will need to make up the loss of this supply. One potential solution is working with the condominium developer who intends to build on the site to allow the public to use part of the condominium's on-site parking until 5 p.m. on weekdays, since condominium resident parking should peak in the evening when retail/office parking demand is low. The Parking Improvements section of this report provides more options.

Parking for Customers and Visitors of Other Uses

The LOS B standard for customers and visitors of the restaurants, health club, yoga studio, and other non-retail/office businesses allows parking up to 800 feet away. The following public parking areas are available between 400 and 800 feet of walking distance from the center of the sub-area:

- On-street parking on Guava Avenue between the south halves of Blocks 5 and 6 and between Blocks 7 and 8 (27 spaces)
- On-street parking on Highland Avenue along Block 6 (39 spaces)
- On-street parking on Eau Gallie Boulevard along the west half of Block 8 and the east half of Block 7 (5 spaces)
- On- and off-street parking on Bud Yeager Boulevard (15 spaces)

The parking areas listed above total 86 public parking spaces. Five surplus public spaces are available within 400 feet if the striping improvements described earlier are implemented. The customer and visitor demand for non-retail/office is 113 parking spaces, so there is a deficit of 22 spaces.

Striping individual on-street parallel parking spaces on the west side of Highland Avenue will gain one space. To make up the remaining deficit of 21 spaces, a new lot could be leased or acquired. Alternatively, an agreement could be reached with businesses that are closed in the evening to allow the public to use their parking lots in the evening. Candidate sites within 800 feet of the center of the sub-area are the hardware store and furniture store lots on Eau Gallie Boulevard, the pawn shop lot on Highland Avenue, the museum lot, and the large private lot on Block 7. The Parking Improvements section of this report discusses more options.

Employee parking demand can be met using spaces in the private lots on Blocks 8 and 9 and remote parking (i.e., the St. Paul's lease lot).

Summary

The ability to meet long-term parking demand in the sub-area relies on the continued availability of the south Highland Avenue lease lot, replacement of the 20 leased spaces on Block 9, provision of 21 additional spaces within 800 feet of the center of the sub-area, and successfully encouraging employees to park in private, alley-accessed lots and remote parking areas.

Parking Improvements

This section describes potential parking improvements, phasing and financing of recommended parking improvements, and recommended amendments to the City of Melbourne's land development code and comprehensive plan.

PARKING IMPROVEMENTS AND PHASING

Immediate Needs

The following parking improvements are needed in the Eau Gallie Waterfront study area and should be implemented within one year:

1. *Amend the land development code to require smaller on-street parking space dimensions and then stripe individual on-street parallel parking spaces.* The length of parallel parking spaces in other cities typically ranges from 18 to 22 feet depending on the striping configuration and the location of a given parking space. Striping each parallel parking space individually will improve efficiency in usage of on-street parking, so more spaces (approximately one new space per 200 feet of parallel parking on average) could be reliably available for use after striping where parallel parking spaces are not currently fully striped. (Note that striped on-street parking spaces suggest a more urban character. This may not be desired in the residential part of the study area, so coordination with residents is important.)
2. *Amend the land development code to allow striping of new off-street lots with smaller spaces.* Typical stall widths for employees and parking at offices and institutions is 8.5 feet. The land development code currently requires off-street stalls to be 10 to 11 feet in width, depending on the associated land use.
3. *Implement a two-hour time restriction in the Highland Avenue lease lot.* This will increase the parking supply available to customers and visitors and encourage employees to park elsewhere.
4. *Encourage business owners and employees to park in alley-accessed lots or remote lots.* This leaves the most visible and convenient parking spaces available for customers and visitors and increases the perceived supply, which can help businesses grow and attract tenants to vacant properties. Flyers, letters, brochures, and Eau Gallie community meetings can be used to convey this message. Example flyers and brochures are in Appendix B. Business owners may choose to offer incentives to employees who carpool or park remotely (informally or as part of a community-wide transportation demand management program).
5. *Ensure that alley-accessed parking spaces are well-defined and safe (e.g., well-lit and open) as a means of encouraging employees to park in alleys instead of on-street.* This recommendation is also applicable to customers and visitors on blocks such as Block 9. Review the land development code to ensure that new development and redevelopment provides alley-accessed parking that is well-lit and landscaped in a manner that promotes visibility and eliminates areas in which criminals can be concealed.

6. *Make available to customers and visitors a parking information brochure or flyer.* Examples are in Appendix B. This information will help customers readily find public parking such as the 20 spaces leased on Block 9.
7. *Increase enforcement of parking time restrictions, particularly the two-hour restrictions on Highland Avenue.* Enforcement could involve an officer who patrols the study area regularly (or only during peak periods) and records license plates and parking durations. CRA funds could be used to pay for increased enforcement.
8. *Ensure that special event organizers encourage attendees to use the St. Paul's lease lot.*
9. *Touch up red- and yellow-painted curbs that indicate where parking is prohibited.* By better emphasizing where parking is prohibited, the City will highlight where parking is allowed. A particular location for this improvement is on the south side of St. Clair Street between Avocado Avenue and Guava Avenue.
10. *Review parking signage to ensure that public parking can be found readily.* In particular, consider the signage directing travelers to the grass lots leased from St. Paul's. On Highland Avenue, there is a sign (shown in Figure 23) between the museum and civic center that indicates free public parking can be found to the north, but there is no corresponding sign indicating that drivers should turn left from Highland Avenue to reach the lots. The sign in Figure 23 also indicates that free parking can be found in the civic center and museum lots, but the spaces in the museum lots say "Museum Patrons Only" (albeit in faded paint) and the lot entrance signs on Pineapple Avenue say "Civic Center Event Parking Only."



Figure 23 Free Public Parking Sign

Several of the above options have a relatively low cost and can be implemented quickly.

Near-Term Needs

The following parking improvements are needed in the Eau Gallie Waterfront study area and should be implemented in the near term (within five years):

1. *Stripe parking lots that are currently unstriped.* If the Highland Avenue lease lot is paved and striped with stalls 8.5 feet wide, four spaces could be gained. If the St. Paul's lease lot is paved and striped with stalls 8.5 feet wide, an estimated 34 spaces could be gained. (The previously recommended land development code amendments are necessary to support this recommendation.)
2. *Extend the parking time restriction past 5:00 p.m. in areas where there is significant customer and visitor activity after 5 p.m. (e.g., south Highland Avenue).*
3. *Ensure that paths between parking and attractions are pedestrian-friendly.* Well-lit sidewalks and parking lots, for example, can encourage visitors and customers to walk a longer distance between their car and their destination. Wayfinding signs such as the one shown in Figure 24 might be useful in tying together remote parking and destinations and would support the pleasant streetscaping features that already exist on Highland Avenue and Eau Gallie Boulevard. Midblock shortcuts and/or rear building entrances for customers might be appropriate so that pedestrians do not have to walk around an entire block to travel between their car and their destination.



Figure 24 Example Wayfinding Sign

4. *Encourage private entities to allow their parking lots to be used by the public when the private entity does not need the lot (e.g., as the St. Paul's Thrift Shop sign in Figure 16 indicates).* Candidate sites near the commercial core sub-area for such an agreement include the hardware store and furniture store on Eau Gallie Boulevard, the pawn shop on Highland Avenue, the museum, and the business that owns the large, paved private lot on Block 7. The 20 spaces leased on Block 9 are not anticipated to be available more than five years from now, and sharing private parking lots is one means of replacing the 20 spaces.
5. *Encourage new development in the study area to take advantage of the Parking Trust Fund.* Parking supply constructed through the trust fund will be public parking that is managed by the City and can thus be available to multiple users. In contrast, private on-site parking may not be available to the public.

Long-Term Needs

Additional parking improvements may be warranted in the Eau Gallie Waterfront study area in the long term if monitoring indicates a need for more supply. The study team recommends updating this parking study in five years to better understand long-term needs. Potential long-term improvements are the following:

1. *Construct or lease new surface public parking lots.* Use of existing parking supply should be maximized before new lots are constructed or leased. Currently vacant or underdeveloped sites are the east half of Block 4, the vacant restaurant property across from Block 4 on the east side of Pineapple Avenue, the southeast part of Block 5, the east half of Block 7, and the southeast corner of Block 8. Only the lots on Blocks 4 and 8 are within 400 feet of the commercial core sub-area.
2. *Consider purchasing currently leased lots if there is an opportunity.* The south Highland Avenue lease lot and the St. Paul's lease lot are important parts of the public parking supply.
3. *Install parking meters on-street in commercial areas.* The benefits of parking meters are encouraging compliance with parking time limits and revenue generation. Meter fees can be nominal if the primary intent of the meters is managing turnover.
4. *Eliminate the on-street parking prohibition on Creel Street east of Highland Avenue.*
5. *Eliminate the on-street parking prohibition on the south side of St. Clair Street between Avocado Avenue and Guava Avenue.*
6. *Stripe parking spaces even smaller than recommended in this report (i.e., convert some spaces to compact parking spaces 7.5 to 8 feet in width).*
7. *Encourage downtown destinations to offer valet parking where appropriate.* An example of valet parking for a shopping center is shown in Figure 25.
8. *Construct a parking garage.* This is not likely to be a consideration for at least 10 years. Construction of a parking garage almost certainly would require the City to purchase land, unless a joint development agreement is worked out such the parking structure includes businesses, residences, or, perhaps, a new public venue. A potential site for the garage is the south Highland Avenue lease lot, but the property to the south (for example) may need to be acquired as well to make the garage a functional size. The businesses currently located on the parcel to the south could become tenants of office space built into the garage.

The study team notes that, on Eau Gallie Boulevard between Pineapple Avenue and Highland Avenue, there is an eight-foot “lane” that is not currently used for auto travel or parking. (See Figure 26.) Eight feet is the minimum width for an on-street parking lane; nine feet is used elsewhere in Eau Gallie. Given relatively high traffic volumes on Eau Gallie Boulevard and the impacts of on-street parking activity on the capacity of Eau Gallie Boulevard, widening the 8-foot lane and converting it into on-street parking is not recommended at this time. The City may opt to diagonally stripe the eight-foot lane to clarify that it is not a travel lane or continue striping of the bicycle lane that currently terminates on the east side of Pineapple Avenue.



Figure 25 Valet Parking Example



Figure 26 8-Foot “Lane” on Eau Gallie Boulevard

Summary of Improvement Needs

Table 8 summarizes the study team’s suggested phasing of recommended parking improvements.

Table 8 Phasing of Recommended Parking Improvements

Time Frame	Improvement
1 year	Amend land development code to require smaller parking spaces on- and off-street.
	Stripe individual on-street parallel parking stalls with smaller dimensions.
	Disseminate information to employers and employees to discourage employees from parking in on-street parking spaces. Encourage use of alley-accessed lots and the St. Paul's lease lot instead.
	Implement a two-hour parking time limit in the south Highland Avenue lease lot.
	Review the land development code to ensure that alley-accessed parking areas for new development and redevelopment meet standards for lighting and landscaping that result in parking areas that are inviting and safe. Work with existing businesses to make alley-accessed parking areas safe and inviting for employee parking. The code currently requires individual spaces to be delineated for certain uses.
	Review signage for and information about public parking from the customer/visitor perspective. Add signs directing customers/visitors to the 20 leased spaces on Block 9. Consider replacing the signs on the east side of the civic center lot with public parking signs like the bottom two sign panels in Figure 23. Provide a parking information flyer to customers and visitors.
	Increase enforcement of two-hour parking time limits.
	Ensure that special event organizers encourage attendees to use the St. Paul's lease lot.
	Touch up parking-related pavement markings and painted curbs as necessary.
1-5 Years	Stripe existing, unstriped parking lots.
	Extend parking time restrictions to 6 p.m. or later.
	Review the safety and attractiveness of pedestrian routes between parking (including the St. Paul's lease lot) and destinations. Consider striping crosswalks, installing lighting, and installing pedestrian-scale signage.
	Develop agreements with private businesses to allow public use of their parking lots when the businesses' parking demand is not at its peak. Regard negotiating these agreements as developing replacement parking supply for the 20 spaces leased on Block 9.
	Encourage new development in the study area to take advantage of the Parking Trust Fund.
Update the parking study	
>5 Years (if warranted)	Construct or lease new surface public parking lots as appropriate and if there is an opportunity.
	Consider purchasing currently leased lots if there is an opportunity.
	Consider installing parking meters to manage turnover or generate revenue for other long-term projects.
	Eliminate the on-street parking prohibitions on Creel Street east of Highland Ave and on the south side of St. Clair Street between Avocado Avenue and Guava Avenue.
	Stripe parking spaces smaller than recommended in this study.
	Encourage downtown destinations to offer valet parking.
	Construct a parking garage.

FINANCING RECOMMENDED PARKING IMPROVEMENTS

Costs and funding of the recommended improvements are described in this section. Unit cost information is provided for the long-term improvements that are not warranted or recommended at this time. The unit costs provided are representative.⁴

Near-Term Improvements

Costs

There is no construction, implementation, or maintenance cost associated with the land development code amendments or ensuring that event organizers encourage event attendees to use the St. Paul's lease lot. Information about parking can be provided to event organizers when event permits are issued.

Striping individual on-street parking stalls and touching up parking-related pavement markings requires labor and paint. Costs include labor, removal of old paint (some locations), and application of new paint. A representative unit cost for new paint is \$0.17 per foot for new 6-inch solid white striping. The total cost for new paint is approximately \$500.

The costs of disseminating information about employee parking in on-street parking spaces include printing costs. One type of information is a flyer that encourages employers to ask their employees to park in alley-accessed lots or remote lots; this flyer can be distributed to downtown businesses door-to-door or mailed. Mailing will incur postage costs. Another type of information is a card that can be placed on the windshield of cars belonging to employees who park in on-street spaces. These cards can be distributed by enforcement personnel or individual businesses.

A parking information flyer can also be printed up by the City and distributed to local businesses who can then distribute the flyer to customers. The costs for this consist of printing costs.

Implementing a two-hour time limit in the south Highland Avenue lease lot will require at least two new signs. Costs include labor and signs. A representative unit cost for materials and installation of a single-post sign with a panel less than 12 square feet in size is \$335.

Working with business owners to make alley-accessed parking areas safe and inviting may require a land development code amendment. At minimum, guidance should be provided to business owners regarding recommended standards. There is no construction, implementation, or maintenance cost associated with providing this guidance or amending the land development code, but there will be costs associated with installation of lighting, landscaping, etc. CRA funds may be available to help offset such costs. These costs will vary by site. A representative cost for lighting ranges up to \$5,500 for a pedestrian-scale light pole and foundation; other lighting options are available.

Added signs directing drivers to public parking include signs for the 20-space lot on Block 9 and a sign directing drivers on Highland Avenue to the St. Paul's lease lot. Public parking signs directing drivers to the 20-space lot can include a sign in each direction on Eau Gallie Boulevard at the entrance to the alley and directional signs for drivers approaching from each direction on Highland Avenue (four signs total). The two signs at the driveways on the east side of the civic center should

⁴ Florida Department of Transportation Long Range Estimating System, March 2008

be replaced with signs that indicate that the public can use the lot at all times. Costs include labor and signs. A representative unit cost for materials and installation of a single-post sign with a panel less than 12 square feet in size is \$335.

Increasing enforcement of parking restrictions will involve paying one or more persons to identify parking violations and issue tickets. The enforcer(s) could be on duty only during peak periods or only when parking time limits are in effect. Costs are limited to new enforcement personnel because management, cashiering, and other support functions already exist. Enforcement may be implemented in-house or contracted out. Relevant unit costs are provided under Long-Term Improvements.

Funding Sources

Funding sources available to make improvements include:

- *CRA Funds.*
- *Parking Trust Fund.* The parking trust fund is not currently being used, so no funds are available for near-term improvements through this source.
- *Public Parking Surcharge.* The land development code requires a payment from developers who exceed building height limits through the conditional use request process. Surcharges collected in the Old Eau Gallie Riverfront CRA can only be used in the CRA and can only be used provide future public parking.
- *Parking Fees.* There is no charge for parking in the Eau Gallie Waterfront at this time, so no funds are available for near-term improvements through this source.
- *Parking Tickets.* Parking restrictions do not appear to be regularly enforced at this time, so there do not appear to be significant funds available for near-term improvements through this source. The current fine is \$25 for most parking offenses in the area. There is a \$100 fine for illegally parking in a handicapped space.

Long-Term Improvements

The City is currently appraising the south Highland Avenue lease lot. Its owner is willing to sell it to the City for \$600,000.

Representative unit costs (from various sources) for parking stall construction are:

- \$2,000 to \$4,000 to construct typical surface lot stall
- \$10,000 to \$15,000 to construct typical, basic garage stall

Representative annual parking operations costs are:

- \$70/year to operate typical surface lot stall
- \$250/year to operate typical, basic garage stall

Representative salaries for parking enforcement and support personnel are:

- \$40,000 to \$60,000 for enforcement officers and security personnel

- \$40,000 to \$65,000 for equipment repair staff and revenue collectors (from parking meters)
- \$35,000 for clerical staff

Representative parking meter costs:⁵

- \$650 for a coin-operated single-space parking meter
- \$6,100 for a solar-powered central pay station

For parking garages, a site that is a minimum of 20,000 square feet in size is typically needed. Garage cost elements may include cashiering (staff and supplies), management (staff and supplies), security, utilities, insurance, maintenance (routine and major), and equipment and maintenance. Representative personnel salaries are provided above.

RECOMMENDED CHANGES TO LAND DEVELOPMENT CODE AND COMPREHENSIVE PLAN

The following amendments to the land development code are recommended:

- Require smaller parking spaces with new development and re-development and explicitly address on-street parking dimensions. This amendment may apply only within Melbourne's CRAs. The parking space dimensions currently in the land development code are 11-foot by 25-foot parallel off-street spaces and 10- to 11-foot by 20-foot perpendicular off-street spaces. On-street parking spaces are not explicitly addressed. In many cities, off-street parking spaces are typically 8.5 to 9 feet wide (depending on the associated land use) and on-street parking spaces are typically 9 feet wide and 18 to 22 feet long. The benefits of smaller parking spaces include the following:
 - More parking spaces will be available for customers and visitors if parking spaces currently unstriped are striped for the smaller dimensions suggested above.
 - Construction costs for new roadways may be less if parking lanes are narrower.
 - Sidewalks can be wider if parking lanes are narrower. Wider sidewalks may further the multimodal transportation goals of the City of Melbourne comprehensive plan.
 - A bicycle lane could be provided if parking lanes are narrower. New bicycle lanes may further the multimodal transportation goals of the comprehensive plan.
 - Trees or other landscaping could be provided if parking lots and spaces are smaller.
 - There will be less impervious surface area if parking spaces and lots are smaller. This may further environmental goals in the comprehensive plan and appears to be consistent with the future parking discussion in the Transportation Element.
- Amend the land development code as necessary to ensure that alley-accessed parking areas for new development and redevelopment meet standards for lighting and landscaping that result in parking areas that are inviting and safe.

⁵ City of Portland, Oregon, May 2007

No amendments are recommended for the comprehensive plan at this time. However, the Capital Improvements Element may need to be amended to reflect the City's commitment to recommended parking improvements.

The City should consider the following issues with respect to long-term future changes to the land development code and comprehensive plan:

- If transit service is introduced in the study area in furtherance of the multimodal transportation goals of the comprehensive plan, bus stops and bus pull-outs may impact the on-street parking supply. If new transit service is well-utilized, however, parking needs might be simultaneously reduced.
- The Transportation Element acknowledges that the section of Eau Gallie Boulevard in the study area might be widened to six lanes by removing on-street parking. There are no plans to widen Eau Gallie Boulevard at this time, but it would obviously affect the parking supply in the immediate area.
- The Transportation Element states that public parking is free. Funding future parking improvements might require the City to review the provision of free public parking.
- The Transportation Element states, "Private development will continue to provide most of the parking facilities throughout the city, including the central business districts." If development and density intensify, the city may reach a point where the Parking Trust Fund becomes a popular option with developers, in which case this language in the Transportation Element may need to be clarified.